

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION**

CUMMINS-ALLISON CORP.,	§	
Plaintiff,	§	
	§	
v.	§	
	§	CIVIL ACTION NO. 2:03-CV-358 (TJW)
1. GLORY LTD.,	§	
2. GLORY SHOJI CO., LTD., and	§	
3. GLORY (U.S.A.), INC.,	§	
Defendants.	§	

MEMORANDUM OPINION AND ORDER

Before the Court is Defendants' Motion for Partial Summary Judgment of Non-infringement of United States Patent No. 5,692,067 (#129). The Court has carefully considered the parties' written submissions and hereby grants-in-part and denies-in-part Defendants' Motion.

I. Introduction

Cummins-Allison Corp. ("Cummins") accuses Glory's GRF-S60, GFR-S80, GFR-S80V, and GFR-S90V ("S-Machines") of infringing claims 7-8, 10-11, 23-24, 35-40, 42, 44-47, 55-59, 61, 63-66, and 74-75 of U.S. Patent No. 5,692,067 ("the '067 patent"). The '067 patent is generally directed to devices commonly known as currency discriminators. These devices are typically purchased by businesses such as banks that need to quickly and accurately determine the value of large amounts of cash. In general, the currency discriminators work by feeding a stack of bills into the machine. The bills are transported by a transport mechanism through the machine, and data is obtained from the bills through a device such as an optical sensor. The bills are then transported to an output pocket or pockets.

II. The S-Machines

Glory designs, manufactures and sells a wide range of money handling equipment, including desk-top currency counters and discriminators, such as the S-Machines. The S-Machines employ four optical sensors that illuminate a scanned bill and detect light reflected from the bill. The detected light is converted to digital samples. As a bill passes between the sensors, two of the sensors scan the bill from above, while the other two sensors scan the underside of the bill. As a result, two segments on each side of the bill are simultaneously scanned. Each scanned segment is approximately 0.39 inches wide and extends across the bill, parallel to its narrow direction. The first segment is spaced 1.30 to 1.69 inches from the center of the bill, and the second segment is spaced 1.89 to 2.28 inches from the center. The two lower sensors scan similarly spaced segments on the opposite end of the bill. U.S. currency measure approximately 6 inches in its long dimension, or about 3 inches on each side of center.

To determine the denomination of a bill, the S-Machines apply formulas to data from a scanned bill. The formulas are subtractions of the value of one block from the value of another block and threshold values that the subtraction must satisfy. If the data from a scanned bill passes all of the subtractions corresponding to a given denomination, the bill is identified as that denomination and sent to the first output pocket, which receives bills whose denomination has been determined. A scanned bill that does not satisfy all of the subtractions corresponding to a denomination is identified as a no-call bill and is sent to the second output pocket, which receives the no-call bills.

Because the S-Machines have a second output pocket (“reject pocket”), the machines generally continue their operations, uninterrupted, until all the bills in the input pocket have been evaluated or an output pocket becomes full. The only exception to this general operation is when

the reject pocket on an S-Machine is set to one. If set to one, the machine will stop upon detection and forwarding of one no-call bill to the reject pocket.

III. Legal Standard

A. Summary Judgment Standard

Summary judgment should be granted if “there is no genuine issue as to any material fact and the moving party is entitled to judgment as a matter of law.” Fed. R. Civ. P. 56(c); *Celotex Corp. v. Catrett*, 477 U.S. 317, 322-23 (1986); *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 248-55 (1986). “Summary judgment is as appropriate in a patent case as it is in any other case.” *C.R. Bard, Inc. v. Advanced Cardiovascular Sys., Inc.*, 911 F.2d 670, 672 (Fed. Cir. 1990).

When the party seeking summary judgment has demonstrated the absence of a genuine dispute over any material fact, the burden shifts to the non-movant to show there is a genuine factual issue for trial. *Celotex*, at 323-24. When a claim limitation is not present in an accused device, literally or under the doctrine of equivalents, the Court must grant summary judgment of infringement. *See Bai v. L & L Wings, Inc.*, 160 F.3d 1350, 1353-54 (Fed. Cir. 1998); *Warner-Jenkinson Co., Inc. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 39 n.8 (1997).

B. Non-Infringement Legal Standard

An infringement analysis requires the patent claims, as properly construed, to be compared to the accused device. *Carroll Touch, Inc. v. Electro Mechanical Sys., Inc.*, 15 F.3d 1573, 1577 (Fed. Cir. 1993). This determination is a question of fact. *Wright Med. Tech., Inc. v. Osteonics Corp.*, 122 F.3d 1440, 1443 (Fed. Cir. 1997). In the absence of a genuine dispute regarding the structure or function of the accused product, the question of infringement collapses to one of claim construction and thus is well suited for summary judgment. *Wang Labs., Inc. v. Am. Online, Inc.*, 197 F.3d 1377, 1381 (Fed. Cir. 1999); *Laitram Corp. v. Morehouse Indus.*,

Inc., 143 F.3d 1456, 1461-62 (Fed. Cir. 1998). As a matter of law, the absence of a single claim limitation from the accused product precludes literal infringement. *Wolverine World Wide Inc. v. Nike, Inc.*, 38 F.3d 1192, 1196 (Fed. Cir. 1994). A dependent claim cannot be infringed unless the claims from which it depends are infringed. *Wahpeton Canvas Co., Inc. v. Frontier, Inc.*, 870 F.2d 1546, 1552, n.9 (Fed. Cir. 1989).

Literal infringement requires the accused device to contain each claim limitation exactly. *Litton Sys., Inc. v. Honeywell, Inc.*, 140 F.3d 1449, 1454 (Fed. Cir. 1998). In the case of § 112 ¶ 6, literal infringement requires that “the accused device perform the identical function required by the limitation and include the structure disclosed in the specification, or its substantial equivalent, for performing that function.” *Intellicall, Inc. v. Phonometrics, Inc.*, 952 F.2d 1384, 1388-89 (Fed. Cir. 1992). Equivalence of structures under § 112 ¶ 6 may be established by showing that the allegedly equivalent structure performs the identical function, in substantially the same way, with substantially the same result, as the claim limitation. *See Kemco Sales, Inc. v. Control Papers Co., Inc.*, 208 F.3d 1352, 1364 (Fed. Cir. 2000).

Under the Doctrine of Equivalents (“DOE”), an accused device that does not literally infringe may infringe if there is equivalence between the elements of the accused product or process and the limitations of the claim. *See Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 21 (1997). To infringe under DOE, the differences between the accused device and the claimed device must be “insubstantial.” *Oak Tech., Inc. v. Int’l Trade Com’n*, 248 F.3d 1316, 1331 (Fed. Cir. 2001). In making that determination, the three-part function/way/result test can be helpful. *Id.* According to this test, a claim limitation is equivalently present in the accused device if an element of the accused device performs substantially the same function, in substantially the same way, to achieve substantially the same result as the corresponding claim

limitation. *See London v. Carson Pirie Scott & Co.*, 946 F.2d 1534, 1538 (Fed. Cir. 1991).

IV. Analysis

A. Defendants' S-Machines Do Not Infringe Claims 7-8 and 10-11.

Claims 7-8 and 10-11 of the '067 patent are dependent upon Claim 1. Accordingly, if there is no infringement of Claim 1, there can be no infringement of Claims 7-8 and 10-11. Independent Claim 1 of the '067 patent is an apparatus claim that includes the limitation "a single output receptacle."

Notwithstanding the plain language of Claim 1, Cummins asserts that Claim 1 is broad enough to include a device with more than one output pocket. Cummins's position was raised during *Markman* briefing. The Court found that Cummin's position was incorrect then and it is incorrect now.

As detailed in this Court's *Markman* ruling, the plain language of Claim 1, and relevant prosecution history, mandates that any device with more than one output pocket would not infringe Claim 1. It is undisputed that the S-Machines manufactured and sold by Defendants include more than one output receptacle. Accordingly, Claims 7-8 and 10-11 that depend on Claim 1 are not infringed and a finding of summary judgment of non-infringement is proper.¹

B. Defendants' S-Machines Do Not Infringe Claims 23-24.

Claims 23-24 of the '067 patent are dependent upon Claim 16. Accordingly, if there is no infringement of Claim 16, there can be no infringement of Claims 23-24. Independent Claim 16 of the '067 patent is a method claim that includes the limitation: "transporting, under control of the evaluation device, said bills, one at a time, from said input receptacle to a single output

¹ Infringement under DOE is equally inappropriate for at least two reasons: (1) prosecution history estoppel and (2) such a result would ignore the single output pocket limitation of the claims. *See K-2 Corp. v. Salomon S.A.*, 191 F.3d 1356, 1367 (Fed. Cir. 1999).

receptacle of the evaluation device.”

Cummins notes that as Claim 16 is a method claim and not an apparatus claim, the mere fact that the S-Machines have more than one output receptacle is not dispositive regarding infringement. Rather, it is the method by which the bills make their way from the input receptacle to the output receptacle. The Court agrees with this proposition but disagrees with Cummins’ attempt to establish infringement.

Cummins has offered proof (which this Court assumes is true for summary judgment purposes) that there are instances wherein bank notes are run through the S-Machines and an operator, during operation, removes an undenominated bill from the reject receptacle and places the bill back into the input receptacle. S-Machines would therefore sometimes operate in a manner such that, with the assistance of an operator, all evaluated bills end up in a single output pocket. However, even assuming Cummins’ assertions are true, non-infringement is still required.

Claim 16 requires that the bills are transported “under control of the evaluation device” from the input receptacle to the output receptacle. Cummins’ position is predicated on an operator taking bills in the reject receptacle and hand-placing them in the first output receptacle. The Court finds that no reasonable jury could find that an operator’s hand-placement of a bill would meet the necessary limitation of “under the control of the evaluation device.” Accordingly, Claims 23-24 that depend on Claim 16 are not infringed and summary judgment is proper.²

C. Claims 37-40, 42, 44-47, 55-59, 61, 63-66, 74-75 Are Not Infringed.

² Infringement under DOE is equally inappropriate for at least two reasons: (1) prosecution history estoppel and (2) such a result would ignore the single output pocket limitation of the claims. *See K-2 Corp., supra*.

Independent Claims 37, 56, and 75 are apparatus claims that include a limitation wherein the device scans “a preselected segment of a central portion of each bill.” The Court in its *Markman* Order construed this phrase to mean “a central, approximately two-inch portion of a bill scanned across the central portion of the narrow dimension of the bill.”

It is undisputed that S-Machines use four optical sensors to scan bills. Two of the sensors scan each bill from above, while two other sensors scan the underside of each bill, as the bills pass between the sensors. By using four sensors, two segments on each bill surface are simultaneously scanned. Each scanned segment is approximately 0.39 inches wide and extends across the bill’s narrow dimension. The inner edge of the segment scanned by the first upper sensor is offset 1.30 inches from the center of the bill. The second sensor scans a segment that is 0.2 inches away from the first segment. Thus, the first segment is offset 1.30 to 1.69 inches from the center of the bill, and the second segment is offset 1.89 to 2.28 inches from the bill’s center.

U.S. currency measure approximately 6 inches in its long dimension, or about 3 inches on each side of center. Thus, the S-Machines scan segments that are on the outer third of the bill – 40% to 70% removed from the center of the bill.

Defendants assert that there must be central segments within the central portion as construed by this Court. The Court agrees. There are central segments. However, for infringement, these central segments must be within the approximately two-inch portion of a bill scanned across the central portion of the narrow dimension of the bill.

Further, many of Cummins’ assertions for finding infringement are nothing more than its *Markman* positions re-cast in different clothing. Cummins’ positions regarding central portion were rejected during claim construction and the Court continues to reject them now.

The S-Machines do not scan the two-inch central portion of the bill. Rather, the S-

Machines scan segments that are on the outer third of the bill – 40% to 70% removed from the center of the bill. Accordingly, the S-Machines do not infringe independent claims 37, 56, and 75. Summary judgment of non-infringement is therefore proper as to Claims 37-40, 42, 44-47, 55-59, 61, 63-66, 74-75.³

D. Fact Issues Preclude a Finding of Non-Infringement for Claims 35-40.

Independent Claim 30, from which Claims 35-40 all depend, includes the limitation “means for flagging a bill when the denomination of said bill is not determined by said discriminating unit, wherein said means for flagging causes said transport mechanism to halt.” This Court has found the structure for “means for flagging” to be a CPU programmed to produce the no-call code of step 162 in Figure 8 of the ‘067 patent. In short, the aforementioned phrase requires that the device’s “means for flagging” must identify when the denomination of a bill is not determined and cause the transport mechanism to halt. The structures for performing these two functions is a CPU programmed to produce the no-call code of step 162 in Figure 8 and Figure 8A of the ‘067 patent.

Defendants’ assert that the S-Machines’ transport mechanism does not stop upon the detection of a no-call bill. Rather, in the S-Machines, the no-call bill is diverted to the reject pocket designed to receive no-calls and the machine continues its uninterrupted function.

However, Defendants admit, as they must, that at least one of the accused S-Machines includes a feature that allows the user to set the maximum capacity of the reject pocket at one. Cummins’ experts have opined that operation in this mode literally infringes the ‘067 claims reciting this limitation. In this mode, whenever the device detects a no-call, it is diverted to the

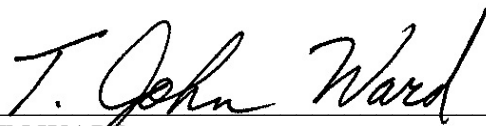
³ Infringement under DOE is equally inappropriate because such a result would ignore the express claim limitation of central portion. *See K-2 Corp., supra*.

reject pocket and the transport mechanism comes to a halt.

The Court is mindful that the “means for flagging” element is subject to § 112 ¶ 6. Literal infringement under § 112 ¶ 6 requires that “the accused device perform the identical function required by the limitation and include the structure disclosed in the specification, or its substantial equivalent, for performing that function.” *Intellicall, Inc. v. Phonometrics, Inc.*, 952 F.2d 1384, 1388-89 (Fed. Cir. 1992). Equivalence of structures under § 112 ¶ 6 may be established by showing that the allegedly equivalent structure performs the identical function, in substantially the same way, with substantially the same result, as the claim limitation. *See Kemco Sales, Inc. v. Control Papers Co., Inc.*, 208 F.3d 1352, 1364 (Fed. Cir. 2000).

Assuming Cummins’ assertions are true, Cummins has raised a genuine issue of material fact regarding the “means for flagging” limitation. By setting the reject pocket to a limit of one, the identical function and result is achieved – the transport mechanism halts upon detection of a no-call bill. Further, while it is clear that the S-Machines do not halt in exactly the same manner, there is a genuine issue of material fact as to whether or not these machines achieve the function and result in a substantially similar manner. Accordingly, summary judgment of non-infringement is denied for Claims 35-40 as they relate to any accused device that permits the reject pocket to be set to a limit of one.

SIGNED this 12th day of December, 2005.



T. JOHN WARD
UNITED STATES DISTRICT JUDGE